CLAIMS

What is claimed is:

1. A method for enhancing proliferation or hematopoietic differentiation of a mammalian stem cell comprising, transfecting said stem cells in an *in vitro* culture medium with an exogenous nucleic acid comprising a *cdx* coding sequence operably linked to a promoter.

2. The method of claim 1, wherein the stem cell is a hematopoietic stem cell.

3. The method of claim 1, wherein the cell is a $CD34^+$ cell.

4. The method of claim 1, wherein the cell is autologous.

5. The method of claim 1, wherein the cell is obtained from a human.

6. The method of claim 5, wherein the human is suffering from, is susceptible to, decrease blood cell levels.

7. The method of claim 6, wherein the decreased blood cell levels are caused by chemotherapy, radiation therapy, bone marrow transplantation therapy or congenital anemia.

8. The method of claim 1, wherein the exogenous nucleic acid is a retroviral vector.

9. The method of claim 1, wherein the exogenous nucleic acid is an episomal vector.

10. The method of claim 1, wherein the stem cell is an embryonic stem cell.

11. The method of claim 1, wherein the *cdx* is selected from the group consisting of *cdx* 1, 2 or 4.

12. A method of treating a mammal in need of improved hematopoietic capability, comprising the steps of:

(a) removing hematopoietic stem cells from the mammal;

(b) tranfecting said stem cells with exogenous nucleic acid comprising *cdx* sequences;

(c) culturing said tranfected stem cells to form an expanded population of stem cells; and

(d) returning said expanded cells to the mammal, whereby hematopoietic capability is improved.

13. The method of claim 12, wherein the mammal is a human.

14. The method of claim 12, wherein the exogenous nucleic acid is a retroviral vector.

15. The method of claim 12, wherein the *cdx* is selected from the group consisting of *cdx* 1, 2 or 4.

16. A method for enhancing proliferation or hematopoietic differentiation of a mammalian stem cell comprising, treating said stem cells by addition in an *in vitro* culture medium of an exogenous *cdx* peptide.

17. The method of claim 16, wherein the stem cell is a hematopoietic stem cell.

18. The method of claim 16, wherein the cell is a $CD34^+$ cell.

19. The method of claim 16, wherein the cell is autologous.

20. The method of claim 16, wherein the cell is obtained from a human.

21. The method of claim 20, wherein the human is suffering from, is susceptible to, decrease blood cell levels.

22. The method of claim 21, wherein the decreased blood cell levels are caused by chemotherapy, radiation therapy, bone marrow transplantation therapy, or congenital anemia.

23. The method of claim 16, wherein the stem cell is an embryonic stem cell.

24. The method of claim 16, wherein said *cdx* is genetically fused to a transport moiety.

25. The method of claim 24, wherein said transport moiety is a fragment of HIV tat protein.

26. The method of claim 16, wherein the *cdx* is selected from the group consisting of *cdx* 1, 2, or 4.

27. A method of treating a mammal in need of improved hematopoietic capability, comprising the steps of:

(a) removing hematopoietic stem cells from the mammal;

(b) treating said stem cells by administration of exogenous *cdx4* peptide;

(c) culturing said stem cells to form an expanded population of stem cells; and

(d) returning said expanded cells to the mammal, whereby hematopoietic capability is improved.

28. The method of claim 27, wherein the mammal is a human.

29. The method of claim 27, wherein the *cdx* is selected from the group consisting of *cdx* 1, 2, or 4.

30. Use of a *cdx* to enhance proliferation or hematopoietic differentiation of a mammalian stem cell.

31. The use of claim 30, wherein the stem cell is a human cell.

32. The use of claim 30, wherein the *cdx* is selected from the group consisting of *cdx* 1, 2, or 4.

33. The use of claim 30, wherein the stem cell is a hematopoietic stem cell.

34. The use of claim 30, wherein the stem cell is an embryonic stem cell.